

DOCUMENT NO.
NO CHANGE IN CLASS. ☒
☒ DECLASSIFIED
CLASS. CHANGED TO
NEXT REVIEW DATE:
AUTH: HR 70-2
DATE: 12 MAR 1981 REVIEWER:

Approved For Release 2003/05/05 : CIA-RDP80R01731R000700050011-2

STAT

30 th June 1956
S.E.

File Registry

4204

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THE CENTRAL INTELLIGENCE AGENCY
OFFICE OF THE DIRECTOR
WASHINGTON, 25.D.C.

Attention
Assistant to the Director.

Dear Sirs :

I thank you for your letter of June 27 th 1956 and for the return of my papers.

There was one sentence in which I guess, must be one of the points you have to know by heart before passing an examination ~~of~~ for civil servant in the U.S. Government, to wit : " However, we have concluded after study of this material that it does not have a practical application to the work of this Agency."

President Eisenhower appointed a Committee of 34 people in which he omitted the scientists. May I call your attention that I am not a mathematician or a scientist, but an engineer and dealing in what are called exact applied sciences, so-called practical.

You wrote that you " studied " my material. I must honestly say that your letter turned out to be an extreme compliment for me at least, because you were not capable to refute either the main thesis of my Ideas and Opinions or the most important details.

Under these conditions I would consider myself an extremely poor fighter of communism if I did not answer you and take the liberty to call your attention to the fact that the word " practical " in the above sentence must be a mistake.

Not that I ask any answer on this letter.

Since long I had given up any Agency of the U.S.A. to show that it ever answered the simple invitation Marx called for at the end of the preface of the first edition of the first book of Das Kapital. For the simple reason that the U.S. Government has only Agencies to catch communists and put them in jail, if possible, or tell them that they are bad boys and that we are such free people, etc. USIA is an extremely good example.

But on April 29 th 1956, Mr. Allen Dulles wrote an article in the Evening Star : RUSSIA SHOWS HIGH ~~EXPERIENCE~~ COMPETENCE IN BUILDING ITS INDUSTRIAL MIGHT. Also this article had not induced to write if there did not appear a question and which Mr. Dulles did not answer. It was this question I answered on the same date and which was the reason that I sent you the material, which you studied.

A few years ago we had some disturbances in Berlin. The last few days we had some in Posen. I agree that the Poles are more difficult as the Germans. But what will a few Polish workers do IF they have no intelligent leaders.

We have a counterpart at this just moment here in the U.S.A. Tonight the fires go out in the steel furnaces and 650.000 men go home. They can do so because they have the AF of L-CIO leaders behind them. The U.S. Government cannot even interfere by shooting some labor leaders and steel industrialists, like the Russians do with the Poles. Though it would be extremely important to the interest of this State that steel was produced.

However these are slight details. Let me come back on the contents of

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of my papers. As you could not write that they were wrong, you really have to write that the three following main points have no ~~any~~ practical application to the work of the CIA, though President Eisenhower asked everybody (~~xxx~~ scientists excluded) to assist practically in order to combat communism.

1. Combatting communism in the only way Karl Marx invited criticism on his fundamental ideas and which has never been done before.

At the same time it can be shown that what "we" call Democracy has a foundation not based on political ideas but on natural laws.

This is only possible by means of a physical and mathematical equation for a material product on which Marx bases his theories.

May I mention that the whole basis of what we call now "practical" is physics and mathematics.

Or in this point your word "practical" is definitely wrong.

2. In order to understand the above equation it is necessary to understand the true meaning of what we call "time." I don't need to remind you that many practical and theoretical people have in vain tried to find a practical solution on the question: what really means time? Sir James Jeans wrote in 1930 that as long we could not answer this question we would never be able to explain what he called "self-determination" the basis of democracy.

However, in order to understand the true meaning of time it is necessary to understand the reason of gravity.

This is closely connected with a U.S. Government project which costs \$ 25 million to shoot something weighing 10 kilograms in the wild blue yonder, thus at \$ 2.5 million per KG and this is even costlier as U 235. The highest authority in the U.S. on this business wrote me that the scientists could not give an answer on this question.

If your Agency will spend \$ 5.05, in Brentano is a book by Herr Werner von Braun, THE EXPLORATION OF MARS. On page 27 he mentioned the gravity on Mars as .38 considered that on the surface of this planet being 1. As you did not tell me that I was wrong, Mr. von Braun made an error of 40 % in his calculations so that I will ~~xxx~~ try not to pay any income tax on his spaceship, nevermind what the Russians do.

3. Understanding a physical and mathematical equation for a material product, makes it possible to understand what really means "money" and this is somewhat different as Marx or the capitalistic economists will tell you. At the same time to understand what is really the cost of a product.

By understanding the cost formula it is possible to develop a Unified Method of Cost Calculation and Control of Production and which will be very badly needed in order to keep up competition with Russia and a more and more economical united Europe.

By such a method the U.S. could profitably provide employment for millions of now overage people, in the future and profit from their experience which is now lost and receive taxes from them without paying them old age pensions. I could give you a very practical example of this.

There is another point worth mentioning: the true meaning of what we call "Space." Certainly this is different from Einstein's Ideas and Opinions but your Intelligence Officers have certainly communicated to you what a few days ago happened in Lindau in West Germany, where Werner Heisenberg and Yudekawa declared that Einstein's theories were inadequate and that it was necessary to remodel the quantum theory of Planck.

My article on the Reason of Gravity was published in Holland in September 1955 and has circulated in several universities. Like your

Agency it has not been possible to refute the fundamentals. In that article was a remodelling of Planck's quantum theory and which would make an end to the uncertainties of Mr. Heisenberg's Ideas and Opinions, because the time factor falls away in the Planck's constant, though only to make place for a quantum which will provide physics with plenty of head aches.

The meaning of Space would in fact make possible a Unified Field theory which word I underline. But in a quite different way as Einstein meant and which ~~is~~ on the other hand ~~is~~ was really impossible.

It would make also possible a unification in science for which several Presidents of the U.S. have appointed committees which however never did come anywhere.

One of the 34 brains of the committee for fighting communism is Mr. Meany of the AFOL-CIO. He started with a speech before the graduates of the Catholic university, here in Washington. If Mr. Meany already suspects possible adherents of Marx in that crowd, what will he think about Harvard and Princeton. It has come to a correspondence between Mr. Meany's director of research who wrote me a letter and in which he attacked Karl Marx in the same way which did not prevent that inside 90 years nearly half of the world's population is under the domination of the communists and we are not even capable to do away with them in the U.S.A. Nevertheless all our intelligence and the best system of Government which I have seen "practically" (nevermind its weaknesses) in the whole world.

I fear that it is not our system of Government which is at fault.

In so far we are in the same boat. You have been not able to explain our system of Government to the world. I am not able to explain my ideas with any practical success to the Government.

Before me I have also a letter from a Senator of the U.S., and who is becoming interested in my ideas, though he still fights nobly for the same system which did not prevent the spread of communism. He writes: dated June 25 th 1956: "If you have not seen the June issue of the Bulletin of the Atomic Scientists I should like to call your attention to the article "The Magic of Marxism" by Professor Polanyi of the university of Manchester.

I have now to call the attention to the Honorable Senator, who certainly would lay down his very life to fight for our freedom that in the December 1955 issue of SCIENCE AND FREEDOM a magazine of which the Professor is ~~xx~~ the Chairman of the Board, on page 28, Andre Gide is mentioned to say: "I dare hardly add "for freedom" as I really do not know what is meant by this concept."

In the same magazine is also a long article by Professor Polanyi. I will try to get the article in question and having read already something by Polanyi I am pretty sure that the commies are again the bad boys who did not foresee this or that.

I don't think that I will even try to find a Publisher for Dunnewolt's book with my addendum but will make it now as quick as possible ready so that it can be published in Holland and France and England and Germany and Italy. And if the contents cannot be refuted something will filter thru the 3000 miles of Atlantic seawater.

Though in one way your letter was negative in another way I could not ask for a greater support especially in Holland where a recent article written by an American General must have made some impression.

Very truly yours,

TO THE CENTRAL INTELLIGENCE AGENCY.
OFFICE OF THE DIRECTOR.

My enclosed letter was already finished when I read the enclosed article in the Sunday Evening Star by Dr. Freeman Dyson who is affiliated to the Institute of Advanced Science in Princeton.

Now it would be possible for your Agency to do something very practical. If I pose the same questions to Dr. Oppenheimer then I get an answer that the purview of the Institute is not to ~~answer~~ answer questions.

After all some Intelligence in your Agency might be interested to ask Dr. Dyson the following questions :

1. What is the origin of physics and mathematics?
2. What is the foundation of what we call a truth ?
3. What is a physical and mathematical expression for a Product ?
4. What is a physical and mathematical expression for the cost of a Product. (the cost of making) ?
5. What is the true meaning of what we call " Money. " ?
6. What is the true meaning of what we call Time ?
7. What is the true meaning of what we call Space ?
8. What is the reason of Gravity ?
9. What is the concept of " freedom " but explained by physical and mathematical language ?

I could put in some other questions but I guess these will be sufficient to satisfy your Intelligence in order to understand how far we are really advanced in science.

If they come up with some answers it would be interesting from which source they were obtained.

Very truly yours,

B.G.H. Vanderjagt
B.G.H. Vanderjagt.

STAT

July 1956

Freedom and Science: An American Scientist Reports on Russia's Achievements

By DR. FREEMAN DYSON

I spent two weeks in May of this year, going to scientific meetings in Moscow, talking with Russian physicists and sitting in Russian laboratories. A dozen Americans and many other foreigners were there. As of us reported, after we came home, that we were astonished at the enthusiasm, the competence and the solid achievements of the Russian scientists.

Now, the editor of The Sun asks me a question. He says, "It is commonly stated by men of science that freedom is essential to a healthy scientific climate. And yet we learn from members of your group that Russian science, which has surely had to put up with security arrangements more stringent than ours, is in a flourishing condition, and that Russian scientists show evidence of the highest morale in their personal and scientific life. How can this be so?" He invites me to set down my thoughts about this question. And I am happy to do so, because the question is a real and important one. If science is to continue to flourish in our country, we scientists must succeed in making our needs understood by the public. For this reason, I welcome every chance to explain our situation, and especially to explain the nature of the chal-

Dr. Dyson is affiliated with the Institute of Advanced Studies at Princeton, N. J. This article, reprinted from the Baltimore Sun, was written in response to a Sun editorial calling for an explanation of the apparent paradox presented by assertions that freedom is essential to healthy scientific progress and reports brought back from Russia by American scientists that Soviet science is flourishing.

lenge being offered to us by Russia. Not as Good as American

First of all, let it be clearly said that Russian physics is not yet as good as American physics. We were amazed at their work, not because it is so wonderful in itself, but because it has improved so much so fast. We felt like Dr. Johnson, when he heard a woman preach and delivered his famous judgment: "A woman preaching is like a dog walking on its hind legs. It is remarkable, not because it is done well, but because it is done at all." Some of our group had worked in Russian laboratories before the war. In those days almost every piece of equipment more complicated than a screwdriver was imported, mostly from Germany. Those gadgets which were made in Russia were not expected to function.

Today, all that has changed completely. The Russians know how to make scientific equipment, equal in quantity and quality to any in the world, and they have plenty of people who know how to use it. It is the speed and suddenness of their progress which are impressive. What they have done with their equipment is not yet so exciting. Since the war, six first-class and revolutionary experiments have been done in physics. Of these, one was done in Italy, one in England, and four in the United States. None so far in Russia.

The second main fact which we established beyond doubt was that Russian work in physics is now essentially free. I am not speaking here about political freedom. This, of course, does not exist in Russia, and will not exist in the foreseeable future. But a reasonable scientific freedom does now exist. That is to say, Russian physicists enjoy the basic professional freedoms, to work on problems of their own choosing, to publish their results, and to discuss their ideas with foreign colleagues. These freedoms are restricted by security rules which are similar to ours, perhaps slightly stricter. In my own conversations, I found the only subject the Russians were unwilling to talk about was the construction of their latest

electronic computers. This subject was clearly "classified" for them, although it is "unclassified" for us. On the other hand, they could talk about some experiments relating to thermonuclear reactions, which for us are still classified.

Freedom Is New

The freedom of Russian science is quite new. It came suddenly, soon after the death of Stalin. Until two years ago, nothing whatever was published of experimental work in nuclear physics. There was no possibility of personal contacts with foreign scientists, even from the satellite countries. And a high proportion of the physicists were engaged in military work. Two years ago, the whole atmosphere changed. People poured back from the military projects into pure science, publication was encouraged, and international meetings allowed.

All this had an intoxicating effect on Russian scientists. Suddenly to be given these freedoms, which they had not known for 15 years, filled them with optimism and self-confidence for the future. All the time we were in Russia, we could feel how happy they were to be allowed to talk to us. Their enthusiasm and high morale is directly caused by their new experience of freedom. The super-strict

security system of Stalin's time produced high morale only in this negative way, like the man in the lunatic asylum who continually beat his head against a brick wall because it felt so good when he stopped.

Official Awakening

The good experimental work which has been done in Russia was done after the new regime began. We found clear evidence that the different laboratories in Moscow had been isolated from each other during the earlier time, and that this had hampered their work considerably. For example, the big cyclotron in Moscow had been working since 1949, and was for several years a better machine than any working in this country. But nobody with imaginative ideas for new experiments had access to it, and so the basic experiments which established the properties of the meson were all done in America.

It is clear that the Soviet government now understands the fact, which the American Government always knew, that scientific progress demands scientific freedom. It is also clear that the Soviet government is spending enormous amounts of money on pure science, and seriously intends to make Moscow the scientific capital of the world.

They have understood that the power of American science depends on America freely and openly attracting people and ideas from all over the world. And they intend now to beat us at our own game.

I will end this discussion with one little story. After the meetings were over, a group of foreign scientists with two interpreters went sightseeing in the country around Leningrad. We walked by mistake into some kind of coast-guard station, evidently a restricted area, but nothing of importance. An ordinary Russian seaman came out to shoo us away, shouting, "Nelzya," which means "Forbidden." At the same time, we noticed that our interpreters, evidently unwilling to be held responsible for this error, were walking rapidly away in the opposite direction.

So we stayed and had a friendly chat with the seaman in our broken Russian. When I said we were foreign scientists, he immediately said, "Oh, I know who you are. You are the people who have been at the meeting in Moscow, and you know all about pi-mesons and mu-mesons." He pulled out of his pocket a crumpled copy of Pravda where there was a report of our proceedings. He talked then with great warmth, saying, "Why do you not come to our country more

often?" and, "Be sure to tell the people in your countries, and your wives and children, that we would like to see more of them."

Friendly Responses

I am fairly sure that this sailor had not been planted, briefed or warned beforehand of our coming. If it had been a plant, the interpreters would not have walked away. And in Moscow I talked with several other nonscientific Russians whom I met casually in the street, and they all made the same kind of response to me.

The moral of this story is that the ordinary Russian people have an understanding of the value and importance of pure science. And they understand and take pride in the fact that learned foreigners come to their country to exchange ideas. It is the atmosphere of public understanding which makes the prospects for the future of science in Russia look so bright. Their scientists have a professional freedom which is not much less than ours, and they have a public support which is in some ways much greater. I can only hope that an American coast-guard sentry, confronted unexpectedly with a group of Russian physicists speaking broken English, would have behaved with equal intelligence and respect.